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Mixed Signals: A Phenomenological Study on the Effects of Cell Phones on College Student Involvement

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MIXED SIGNALS: A PHENOMENOLOGICAL STUDY ON THE EFFECTS OF CELL PHONES ON COLLEGE STUDENT INVOLVEMENT

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CERTIFICATE OF APPROVAL

MASTER'S THESIS

This is to certify that the Thesis of

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Abstract

Leading the United States of America in cell phone use are American college students, of whom 94% have a cell phone, 85% use text messaging, and 75% send texts every day (Student Affairs Administrators in Higher Education, 2008). This study utilized a phenomenological qualitative methodology to examine the effects of cellular telephones on college student involvement, based on Alexander Astin's (1986) theory of involvement. Seven participants from a small, residential university in the Midwest participated in the study and shared their lived experiences as college student cell phone users living on a cell phone-saturated campus. The results of this study indicated that cell phones positively promote face-to-face out-of-class student involvement with other college students, increase students' likelihood of participating in on-campus programs, but are unlikely to facilitate involvement with faculty. Furthermore, the findings indicated that participants were dissatisfied with the quantity of interactions cell phones provided, and resented and blamed cell phones for the lack of quality relationships they have with others. Nevertheless, participants emphasized their perception of cell phones was mostly positive, even though they frequently described the devices' undesired and harmful effects, believing cell phones are necessary in order to stay socially connected and informed.

Keywords: cellular telephones, college student involvement, fauxcellarms

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Table of Contents

Chapter 1

Introduction

Cell Phone Prevalence, Saturation, and Pervasiveness

Global statistics. Mobile technology devices such as portable music players and tablets have come to define the 21st century and the young adults who have grown up in it. As a result of their close connection with widely available multimedia electronics and the Internet, those born in the early 1990s to the present have come to be known by their close association with technology, labeled the *iGeneration, Generation M* (i.e., multitasking), and the *Net Generation* (Rosen & Cheever, 2010). But however familiar the iPod and iPad may be to this generation, chief among these technologies is the cellular telephone.

The global prevalence, popularity, and pervasiveness of the cell phone has grown tremendously in recent years. From 2005 to 2009, worldwide cell phone subscribers grew 109%, from 2.2 billion to 4.6 billion (International Telecommunications Union, 2010; MobiThinking, 2011). In 2010 alone, cell phone subscribers totaled 5.3 billion, sent 6.9 trillion text messages, and by the end of 2011 were expected to eclipse more than 8 trillion texts sent each year (International Telecommunications Union, 2010; MobiThinking, 2011). In other words, in 2010 subscribers totaling more than three quarters of the world's population sent nearly 1.6 billion texts each day, and sent more than 1.8 billion texts every 24 hours merely a year later.

Americans and American college students. One of the leading countries for cell phone use, in the United States of America 86% of the population has a cell phone (Cell Signs, 2008). Leading the population are American college students, of whom 94% have a cell phone, 85% use text messaging, and 75% send texts every day (Student Affairs Administrators in Higher Education, 2008). Essentially, to be a college student is to own a cell phone. But what is often overlooked is what accounts for the sudden growth of the device among today's college students.

The cell phone's rapid rise and evolution. According to Wei and Lo (2006) the cell phone's swift growth in popularity is due to the fact that in the last decade the technology evolved rapidly from a business necessity or luxury item owned by few into an obligatory device for maintaining social relationships among the masses. Cell phones connect friends, parents, and offspring, and, especially for parents of females, has become a safety device which no daughter is to leave home without (Aoki & Downes, 2003). In the process, the cell phone has advanced from a rudimentary communicator solely dedicated to verbal communication into a multimedia device with multitudes of applications, Internet access, and a camera, putting numerous methods for communication at a user's disposal.

As a result of its widespread and rapid rise in popularity, and due to the constant contact the mobile device makes possible, cell phones are having a profound role in shaping the mindset and social conduct of today's college students. But while the ability to communicate at any time from almost anywhere by voice or text is an incredibly beneficial function, the cell phone is also directly responsible for or linked to various undesired effects.

Problem Statement

Numerous cell phone-related issues affecting students have been identified, including classroom interruptions (Burns, 2008; Campbell, 2006), impaired study memory (Smith, Isaak, Senette, & Abadie, 2011), lower family satisfaction, distractions at home/work/school, worse role performance (e.g., users being physically present but focused elsewhere through the device) (Ashforth, Kreiner, & Fugale, 2004; Beaver, Knox, & Zusman, 2010; Chesley, 2005), and sensations of high distress when separated from one's cell phone (Stam & Stanton, 2004).

While the effects of cell phones have been widely studied regarding their impact on the in-class experience (Burns & Lohenry, 2008; Campbell, 2006; Rosen & Cheever, 2010), there is a lack of research within higher education on the impact of cell phones on student involvement out-of-class. Alexander Astin's (1984) theory of involvement states that the more students are involved with the academic and social aspects of the college experience the more they learn and develop. Astin (1984) defined an involved student as one who devotes significant energy to academics, spends considerable time on campus, participates actively in student organizations and activities, and interacts frequently with faculty. Unlike Astin's prior "input-process-output" model (Pascarella, 1991, p.50) through which the student is passively developed by programs and faculty within the institution, Astin's involvement theory hypothesizes that the student determines his or her level of involvement (Hutley, n.d.). As Astin (1984) indicated, involvement has both quantitative and qualitative features which impact student learning and development. That is, the amount of time (quantity) and seriousness (quality) a student devotes to involvement, the more or less a student will learn and develop. In other words, the more a

student puts in, the more a student gets out. However, involvement requires energy and time, and students vary, as on a continuum, in the degree to which they can be involved in their educational development, which is limited by how involved they are with people and activities outside of the institution, such as family, friends, work, and other activities (Astin, 1984; Hutley, n.d.).

As a device which promotes involvement elsewhere through wireless communication, and as an object with which students are involved through the non-communicating multimedia features it provides, the cell phone can very easily and significantly impact student involvement. While no studies have dealt directly with the effect of cell phones on student involvement, numerous studies suggest that cell phones may considerably impact how college students relate with others and through the device choose to be involved.

Purpose and Research Questions

At many small, residential institutions, an involved student community and campus life which engages students are regarded and marketed as valuable components of their students' complete or holistic education (Anderson University, 2006; Azusa Pacific University, n.d.; Colorado Christian University, n.d.; Taylor University, 2011; Wheaton College, n.d.). The effect that cell phones and other mobile devices have on students' interaction with communities such as these, however, is unknown. Because no known research has been conducted on the impact of cell phones on out-of-class student involvement, this study broadly seeks to understand (1) what effect cell phones have on college students' out-of-class involvement with other students, with on-campus activities, and faculty; and (2) how cell phones and mobile devices affect the perceptions,

dispositions, and desires of students to socially interact and be involved with others while on campus.

Chapter 2

Literature Review

Cell Phone Use Among College Students

While 86% of Americans have a cell phone (Cell Signs, 2008), almost all American college students do. According to Student Affairs Administrators in Higher Education (2008), 94% of American college students have a cell phone, 85% use text messaging, and 75% send texts every day. While college students generally are heavy consumers of the technology, Beaver, Knox, and Zusman (2010) found a statistically significant difference in regular cell phone use between females and males (95.0% versus 91.2%, respectively) as well as Whites and Blacks (95.1% versus 87.7%, respectively).

Incongruent use by gender and race. The discrepancy between genders was accounted for by the fact that a cell phone is a device designed to connect people and that females are more relationally-oriented than males (Abowitz & Knox, 2003; Crossley & Langdridge, 2005). Another rationale suggested that parents are typically more concerned for the physical safety of their daughters than their sons and, as a result, insist that their daughters carry a cell phone with them at all times, leading to more frequent cell phone use by females (Beaver, 2010). The incongruence between Whites' and Blacks' regular cell phone use was linked to economic factors. The expense and perception that cell phones are luxury items paired with lower per capita income among Blacks as compared to Whites ($18,428 and $28,325, respectively) was indicative of lower regular cell phone

use among Black students (Beaver, 2010; United States Bureau of the Census, 2010, Table 688). But modifying both gender and race is another significant factor tied to regular cell phone use.

Face-to-race interaction. Jin and Park (2010) found that the more face-to-face social interaction college students had the more it positively affected cell phone use and interpersonal motives for using their cell phones. In other words, the more students physically interact with others the more they communicate through their cell phones in an attempt to strengthen those personal bonds. Conversely, shyness and social anxiety which reduced one's face-to-face interaction correlated to much lower rates of cell phone use (Jin & Park, 2010). Regardless of one's extroverted or introverted behavior, the literature shows that cell phones are used primarily to maintain already established relationships (Jin & Park, 2010), paralleling the results of research by Leung and Wei (2000) and Wei and Lo (2006). But while the motive to reinforce social bonds through devices is not peculiar to cell phones, it is greatest among them.

Cell Phone Motives

Research shows that college student cell phone users are highly motivated by a sense of belonging to a social community and, through the device, are sensitive to preserving that connection. Commonly, students show signs that they are responsive to the social community with which they are involved by constantly scanning their cell phones to see if they have to respond (Braguglia, 2008). The ability to contact and be connected with others at all times—though that feature may come at a price—is only one of the unique characteristics of the cell phone.

In contrast to studies of the landline telephone (Dimmick, Sikand, & Patterson, 1994; O'Keefe & Sulanowski, 1995), cell phones are used primarily for intrinsic or social reasons (e.g., companionship) much more than instrumental or utilitarian reasons (e.g., gathering information) (Jin & Park, 2010; Wei & Lo, 2006). While motives for using both landline and cellular phones include information gathering, social utility, and affection, motives unique to cell phone use are mobility, immediacy, fashion, and status (Jin & Park, 2010; Wei & Lo, 2006). Thus, as much as the cell phone is relied upon on-the-go and carried in case of a timely or emergency situation, much like a designer Swiss watch which turns heads but also tells time, the cell phone also serves the much less functional purpose of a stylish accessory.

Cell phones are no longer simply communication devices. They have become symbolic and expressive fashion accessories showcasing one's personality, popularity, and taste (Jin, 2010; Wei & Lo, 2006). Even further, when participants are asked to place a price point on their device, cell phones tend to hold much more value than their retail value in the minds of their users (Jin & Park, 2010; Wei & Lo, 2006). However, due to such motives as these, the considerable intangible value which cell phones possess causes individuals to prioritize involvement with their cell phone over other sources of immaterial value which historically are more respected.

Negative Effects of Cell Phones on Social Groups

Jin and Park (2010) recorded that college students tend to prioritize time with their cell phones over their studies, finding that "the average frequency with which participants used voice calls was about 13 times… and text messaging was about 82 times… in a day" (p. 610). Similarly, social interaction via cell phone often takes

precedence over physically present company. A frequent, recurring theme within the literature was lower family satisfaction, distractions at home/work/school, and worse role performance (Ashforth, Kreiner, & Fugale, 2004; Beaver, Knox, & Zusman, 2010; Chesley, 2005).

Lower family satisfaction. It may seem obvious, but when a couple is together and one engages with a cell phone in a private setting, cell phones annoy romantic partners (Beaver, Knox, & Zusman, 2010). The impression engaging with a cell phone gives when a romantic partner is present is that an object (i.e., the cell phone) is more important than the significant other. Intriguingly, that annoyance is associated stronger or weaker along racial and gender lines. Blacks are twice as likely to be annoyed as Whites by a romantic partner using a cell phone (25.1% to 12.8%, respectively) (Beaver, Knox, & Zusman, 2010). And though women text more often than males, women were more likely to be annoyed than men (Beaver, Knox, & Zusman, 2010). In all cases, the major complaint issued was that when engaged with a cell phone in the presence of loved ones, cell phone users are physically present but focused or connected elsewhere (Beaver 2010; Burns, 2008; Campbell, 2006). Their energies are not supporting the physical situation they are in or offered undivided to the people present with them. Instead, their attention is drawn to the main concern of the moment: someone elsewhere needing their attention.

Poor etiquette and distractibility. Beyond reducing cell phone users' effectiveness to their family units, their cell phone activity is also perceived as unabashedly rude. Studies show that choosing to engage cell phones over physically present peers, authorities, and loved ones is a manifestation of bad cell phone-related behavior (Beaver, 2010; Burns, 2008; Campbell, 2006). Such conduct is arguably

experienced in higher education nowhere more often than the classroom. One of the most reported undesired effects of cell phones are in-class interruptions and distractions. Burns and Lohenry (2010) found that the vast majority of students and faculty (85.1% compared to 84.2%, respectively) believe cell phones are a distraction during class. Nearly half of students (49.2%) and 40% of faculty stated vibrating cell phones are distracting during class time (Burns & Lohenry, 2010). Only 24.6% of students said they were distracted by cell phone backlights during class compared to 35% of faculty (Burns & Lohenry, 2010). However, while most students (65.1%) and all faculty said they refrained from using cell phones during class, 53.3% of students indicated that they sent text messages during class time, and 10% of faculty admitted to checking phone messages during class as well (Burns & Lohenry, 2010). But whether or not students or faculty intentionally interact with cell phones, unintentional or accidental interruptions happen at much greater rates.

Nearly three quarters of all students (72.3%) stated that their phone rang during class time compared to 40% of faculty members, even though cell phone policies were in place (Burns & Lohenry, 2010). As a result, Burns and Lohenry (2010) urged that cell phone etiquette be communicated in class, emphasizing especially the implications for education at the present and future expectations for cell phone management in the workplace.

Further linking cell phones to distractions, Smith, Isaak, Senette, and Abadie (2011) demonstrated through 24 Deese-Roediger-McDermott lists that students' attention and memory functioned best when they were not presented with any distractions during study sessions, and performed poorer when required to carry out a cell phone conversation or text messaging task while studying. When presented with cell phone

distractions, students' true memory (i.e., the ability to remember correct answers) was negatively affected across the board, regardless of allotted time of study (i.e., 1-30 minutes) whether they were required to take a call (0.40/1.00), make a call (0.40/1.00) or, most significantly, send texts (0.29/1.00), as compared to having no distractions at all (0.62/1.00). Despite the evidence that cell phones have significant negative effects in social settings, the desire to stay connected through the device even when it is socially unacceptable is powerful, and more and more difficult to overcome.

Dependence, ill-adjustment, and *fauxcellarms*. In an international study conducted by Naomi S. Baron (2008), when asked what they liked most—or least—about their mobile phones, a number of students mentioned texting, but essentially no one mentioned talking. Students globally indicate that texting's stripped-down means for communicating is preferred to the voice call. However, this is not because texts are not invasive. Ironically, while the majority of participants liked most their ability to contact others, they overwhelmingly liked least that others could contact them (Baron, 2008). As a result, *reachability* was found to extract a heavy toll on users worldwide (Baron, 2008). Baron (2008) found that the reason such exasperation comes from cell phones, a technology intended to make life easier, was due to the relative newness of the technology. Culturally, students are still learning to adapt and struggling to cope with the ever-presence of the technology (Baron, 2008). Students, whether cognitively aware of it or not, are by and large ill-adjusted to the cell phone's presence. A sizable number (especially in South Korea) claimed to be dependent upon mobile phones, and addicted to or stressed by the device even through text messaging (Baron, 2008).

Further, *fauxcellarms* or *phantom vibrations*, the widely reported sensation of a cell phone going off in the absence of a call or text, is a source of pride for some cell phone users, but reflects a major downside of the technology for others: dependence (Simon, 2007).

Stam and Stanton (2004) asked students to give up one or more electronic devices for 48 hours and journal their experience. Laptops, televisions, and other electronic devices were included in the study. But those who gave up cell phones experienced the worst effects. Students who gave up their cell phones during the two-day period reported great distress and heightened anxiety when separated from their cell phones, indicating a strong dependence upon cell phones and greater personal connections to the device than other forms of technology (Stam & Stanton, 2004). As numerous studies confirm, dependence, separation, and feelings of distress are negative psychological effects which cell phones have on college students (Ashforth, 2004; Beaver, 2010; Chesley, 2005; Stam, 2006).

Chapter 3

Methodology

Phenomenological Research

This study utilized a phenomenological qualitative methodology to study the effects of cellular telephones on student involvement. Phenomenology is acknowledged as an appropriate means for studying the lived experiences of groups of people, including college students in the field of higher education research. While a host of literature on the impact of cell phones on the in-class experience exists, there is no known research on what impact cell phones are having on out-of-class experiences of students and their campus involvement. Due to this gap, a phenomenological research method was chosen so that the study could obtain as rich an initial understanding as possible of the impact of cell phones on college student involvement.

Participants

Data for the study was based on a nonrandom sample of undergraduate student volunteers at a residential institution in the Midwest. In order to best understand the essence of the experience of being college students using cell phones and living amongst cell phone users, purposive sampling was used in this study. Eight to 10 participants were sought because this range can efficiently reach saturation (Creswell, 1998). For the intent and purpose of this study, sampling was open to all students with no restrictions related to cell phone use or ownership. Due to the heavy saturation of cell phones on college

campuses, which does not allow for students to be unaffected by the technology, all students have degrees of first-hand lived experience relevant to this study even for those who do not own a cell phone. In the case of this latter group, students without cell phones, questions related to their involvement and perceptions of cell phones were developed when questions related to cell phone use were found irrelevant.

Ultimately, seven participants, four males and three females, engaged in the study. All the participants had personal cell phones, were involved in one-on-one in-depth interviews lasting approximately one hour, and answered questions (approved by the institutional review board) on "Cell Phones and College Student Involvement."

Interview Protocol and Procedures

Interviews were conducted in three series. The first series were semi-structured interviews, asking open-ended, broad questions. The goal of the questions (see Appendix) was to identify behaviors, motives, and beliefs concerning cell phones and the level of involvement participants had with peers, on-campus programs, and faculty out of the classroom. In the first wave of interviews, the researcher pursued the responses to the protocol questions given by three participants. In this manner, participants presented a less constrained description of their lived experience while the interviewer observed and explored the themes which emerged in greater detail (Patton, 2002). In the second series of three participants and the third series of two, the questions asked became more structured and specific, pursuing the emergent themes of the previous series in greater detail with new participants.

All interviews were digitally audio recorded with the permission of interviewees (Arksey & Knight, 1999; Bailey, 1996). Each interview was assigned a code and, as soon

as possible, was listened to while noteworthy markers, key words, and phrases were recorded (Groenewald, 1999). During all interviews, observational notes logged markers, which were deemed important (Groenewald, 1999).

Explication of the Data

Because the term data analysis usually means data is broken into parts, Groenewald (2004) suggested that the phrase "explication of the data" best describes phenomenology, a method which investigates the elements of a phenomenon, yet maintains sight of the whole. The data gathered from the interviews was coded using labels to classify and assign meaning to pieces of information in order to best recognize patterns, label themes, and determine their interrelationship (Glaser & Strauss, 1967; Hycner, 1999; Lofland & Lofland, 1995; Strauss & Corbin, 1990).

A simplified version of Hycner's (1999) explication process as cited by Groenewald (2004) was used. The explication process includes five phases:

1. Bracketing and phenomenological reduction.
2. Delineating units of meaning.
3. Clustering of units of meaning to form themes.
4. Summarizing each interview, validating it and where necessary modifying it.
5. Extracting general and unique themes from all the interviews and making a composite summary. (p. 17)

Hycner's (1999) explication process, in other words, sought to (1) reduce the impact of the researcher's perspectives upon the world of the participant; (2) judge the content in terms of literal meaning, number of times a meaning is stated, and how (e.g., non-verbally, linguistically) the content is used; (3) draw out the essence of meaning

from units in context to form themes; (4) incorporate all the themes into a summary which is verified by the participants and modified if necessary; and, after finishing the first four stages, (5) record a composite summary of "the themes common to most or all of the interviews as well as the individual variations" (Groenewald, 2004; Hycner, 1999, p. 154). Following these processes, the lived experience of participants was guarded and validated with respect for the truth (Groenewald, 2004).

Chapter 4

Findings

College Student Involvement

As stated in the introduction, cell phones are devices which, by nature, promote involvement elsewhere through wireless communication and are objects with which students are engaged through the non-communicating multimedia features the devices provide. Subsequently, cell phones can very easily and significantly impact student involvement, positively or negatively. For this reason, the present study sought to understand broadly (1) what effect cell phones and other mobile devices have on college students' out-of-class involvement; and (2) how cell phones and mobile devices affect the motivation and desire of students to socially interact and be involved with others while on campus.

Effect on Student-Student Involvement

Emphasized by all seven participants, the most popular theme overall was that cell phones involve students with other college students. Participants indicated that cell phones connect them with their peers primarily through texting for the purposes of meeting in person.

Five of the seven participants communicated that cell phones primarily facilitate planning events and group activities, most commonly activities which are currently on-going and with which students are already involved. Examples included receiving or

sending invitations to join students who were exercising at the gym, studying at the library, watching a movie in a residence hall, heading to dinner, and who were on their way to or are attending on-campus events and programs. Because these activities were in-progress when announced, a related theme was that cell phones were essential in order for college students to stay socially connected and involved with each other. The general thought among all seven participants was that spur-of-the-moment activities presented a limited window of opportunity, and without a cell phone college students would regularly miss out on social activities.

Effect on quantity of student-student involvement. Six of seven participants stated that they personally used cell phones most frequently to communicate with other students. The one exception was a married male who communicated most with his spouse. All seven participants said that cell phones increased their involvement with college students. Specifically, they noted cell phones increased the quantity of in-person interactions with students with whom they already had established relationships, namely, students they lived with, classmates, and students with whom they shared leadership responsibilities.

Prioritizing cell phones over physically present peers. A phenomenon which four of the seven participants noted was that when physically surrounded by students with whom they did not have established relationships, they used their cell phones to engage friends elsewhere and passively dismiss students with whom they were physically present.

A female participant complained,

> Sometimes having a cell phone disconnects you from students because you'll find you use it a lot to not feel awkward around students, to avoid awkward conversations. So you'll use your cell phone to make it look like you're preoccupied . . . So sometimes I will just look at my phone or try to send someone a text so that I don't engage in awkward things.

A second female participant was critical of students who regularly chose their cell phones over present peers saying, students generally used their cell phones "to give off the vibe that they are not willing to leave their cell phone in their backpack or converse." The same participant suggested students did not understand that "if you're with people who are meaningful to you, put down your phone and spend time with them instead." However, she later acknowledged, "but sometimes I'll pick my cell phone over spending time with people. So admitting that, it sounds horrible but it's true."

All participants shared stories from their experiences with cell phones in college. Five spent the most time recounting stories which were critical of their peers' use of cell phones. Over the course of their interviews, the same five reflected—some admitting for the first time—on how their own cell phone use was perhaps as poor as their peers. The other two participants chose not to complain about their peers but, when asked to present an example of poor cell phone use, also could not describe how cell phones could be bad or good, nor identify good or bad cell phone behaviors.

***Perceptions of smart phone users*.** Three of the seven participants had smart phones. The four who had feature phones spoke at length about the negative effects smart phones had on them and their friends. They claimed that smart phone users engaged their

phones much more often than feature phone users, and that smart phones users were more often anti-social and rude than feature phone users.

When her roommate got a smart phone for the first time, a female participant said she felt shut off because her "roommate a lot of times would sit in bed for an hour or two and scroll through Instagram or get on the Internet or watch movies on [her smart phone]." The change in their relationship and the roommate's "continuous" and "excessive" smart phone use led the participant to feel "saddened… because I feel like it blocks off your ability to converse with someone… You can't really talk to the person—they're more interested in their phone than you." The same participant perceived that owners of smart phones used them largely as "a time filler," while feature phone users were less likely to engage their phones overall:

> Instagram is constantly posting new pictures. Facebook is constantly having new things. So [smart phone users] get on Facebook numerous times just to see what's happening on the homepage or what's happening on Instagram—"who posted the new thing? Did I get an email?" Whereas… since I can't access those things there isn't another reason to be on my phone if I'm not getting a text or calls.

A male feature phone user perceived that smart phones have greater potential to isolate users socially saying, "the temptation and definitely the ability to be not engaged in person is so much greater with a smart phone just [by] the fact that you have so much information in your hand. It's very easy to get kind of lost." A second male feature phone user also suggested, "It's easy to get lost in devices, lost in another world where you are just interested in the information on the screen as opposed to the person in front of you."

The three participants who used smart phones supported these notions by saying they used the non-calling and non-texting features of their phones the most, namely Web browsers, Instagram, Facebook, Twitter, SnapChat and other applications. However, the smart phone users did not believe such behavior was rude or wrong. Instead, they justified it on generational grounds, claiming constant use of technology, including in public areas and during meals, was socially acceptable for their age demographic.

***Experiences of feature phone users*.** Related to the above discussion, three feature phone users communicated they felt disadvantaged and less meaningful because they did not own smart phones. A female participant explained, "sometimes I wonder if people who have a smart phone or iPhone just want to put it out there so you can see it, like 'I have an iPhone' or 'I have a really nice phone.'"

With the iPhone 5 arriving during the course of this study, two feature phone users felt especially criticized for having so-called old and out-dated technology. "They want you to know they have the iPhone 5, like 'I am ahead of the game; I have better technology than you,'" one feature phone user said. Those comments led the participant to "feel a lot more excluded" and negatively affected their involvement with those students. The same participant added, "I have had people be like 'you don't have an iPhone? Why don't you have an iPhone yet?' or say [in a mocking tone] 'oh you don't get emojis [special iPhone characters]?'" All four feature phone users felt that smart phone users "just assume I have an iPhone or criticize me because I don't have one," as one participant summarized.

Participants suggested that anti-social or rude cell phone behaviors were typical of daily student life. They expressed that college students use cell phones to intentionally

disconnect from students who are physically present because of social anxieties in favor of engaging friends elsewhere via text messaging or one of the non-social features of the device. In the case of feature phone users, they felt excluded from the in-crowd and mocked for not having the latest cell phone devices.

Satisfied with the frequent interaction which cell phones provided her, a female participant said, “I think with phones in general that the interaction with students may be more frequent but more superficial.” While cell phones were characterized primarily as social devices which promote interaction through the device and in person, participants emphasized that cell phones were best at quantity of involvement rather than quality.

Effect on quality of student-student involvement. A prominent theme which emerged was that cell phones promoted shallow relationships and restrained relationships from progressing deeper. The cell phones’ perceived negative effect on the quality of involvement with other students was so strong that participants indicated relational dissatisfaction continued even when interacting face-to-face when cell phones were no longer present. Five of the seven participants believed that if they lived in a world with fewer cell phones, their relationships would be superior to the relationships they had now. Furthermore, they believed that with cell phones, their relationships could never match that anticipated level of quality. The other two participants believed cell phones did not help or harm the quality of their relationships, but were nevertheless dissatisfied with the quality of the relationships they had with their peers on campus. “I think life could be a lot different if I didn’t have [a cell phone] because I might rely more on face-to-face conversations than I do now,” said a female participant. “I really like meeting up face-to-

face, but because texting someone is maybe more convenient . . . you rely on that more. So I could see how my relationships might not be as strong because I have a cell phone."

A second female participant suggested, "If I had the time, I would prefer to talk [face-to-face]. Because by talking [face-to-face] it opens more opportunity for a better, deeper relationship." As five total participants did, the same participant complained that texting conversations were often unclear, and when a response was not immediately received, she often wondered "is this person mad at me," rarely assuming "their phone must be dead."

Emphasizing that communication by texting is impaired in its ability to communicate rich thoughts and emotions, a third female stated,

> It's really easy to think that you're not missing anything [by texting], that you are getting to know somebody that way because you can share your thoughts and they can share their thoughts. I think people sometimes forget that it's not a whole way to know someone.

Believing cell phones facilitate shallow relationships, a male participant shared an unenthusiastic perspective on the effect of technology on relationships:

> We have so many ways we can communicate, but it takes a lot of effort to get to who a person actually is. We can say, "oh I've texted them, talked on the phone, skyped." Whatever. All these ways to communicate or even ways to analyze someone . . . [do not] always fully describe a person . . . We're not getting any closer to truly knowing each other when it comes to cell phones or electronics.

While information is communicated often by text message, college student participants lamented the lack of quality and depth in their relationships and believed cell

phones were at fault for some of the superficiality and shallowness they experienced in their relationships with other students. Yet, while cell phones could discourage face-to-face interaction among college students, participants acknowledged that cell phones, on occasion, promoted quality conversations unique to cell phones, because the devices create physical distance between people.

Three participants stated that text message conversations promoted and allowed them to have conversations with other students which were too uncomfortable to have in person. “Because [text messaging] is kind of impersonal, you can say things you may not say face-to-face,” a female participant offered. “It’s easier to maybe connect on a deeper level, a deep level for technology.”

By not talking face-to-face, three participants suggested they were positively able to be more open and vulnerable with their peers, and their peers with them. Interestingly, two of the three participants shared that the students with whom they have had vulnerable texting conversations were students they did not live with or know well, indicating that cell phones in this way afforded anonymity in addition to physical distance. Additionally, one male participant shared that when conversations had a high risk potential of making him feel vulnerable or threatened, texting was an enticing alternative because texting it was safer and more comfortable than having the same conversation face-to-face:

> There are much fewer risks involved in texting somebody information as opposed to telling them [face-to-face] . . . You can distance yourself from [the situation] as you’re not there in person and don’t have to deal with the [person’s] reaction. You can say something very hurtful, very mean over text that you would never say to their face because you wouldn’t want to deal with the reaction.

Even though cell phones can facilitate deeply personal and vulnerable conversations because of the physical distance the devices create, participants overwhelmingly preferred to communicate by other means. All participants stated texting and voice calls were not their preferred means for communicating with others, expressly stating that they preferred to communicate face-to-face.

Effect on Student-Campus Involvement

All seven participants suggested that cell phones increase their likelihood of participating in on-campus programs. Participants said that communication through their cell phones increased their awareness of activities taking place on campus and, when a friend communicated by phone that he or she was going to attend, participants were much more likely to go themselves. Illustrating this point, a female participant emphasized,

> When I'm not informed about what's going on [on campus] and then I personally get a text from someone, then I'll actually want to go. There are times when I'll look at an event and say I don't really want to go to that. . . . Sometimes it's an event I've heard about but just shrugged and said "I'm just not going to go." But because someone has actually invited me [by text message] I'll go.

Two participants who held student leadership positions in their residence halls found that when they invited students by text in addition to inviting them in person, they saw a notable increase in participation. Five of the seven participants stated that they preferred to be invited to events by text because the information was recorded on their phone, served as a reminder, and was quick and easy to access.

Because participants suggested texts served as better reminders, three of the participants were asked if they would prefer the institution to send them updates by text

about on-campus events and programs in addition to email. All three participants said that they personally would not be interested in the institution informing them that way, saying such messages would be "annoying," amount to "spam," and be too expensive for the institution.

Effect on Student-Faculty Involvement

Participants struggled to answer the question "how do cell phones connect you with faculty outside of class." Two participants stated that they used voice calls and text messaging to contact a specific faculty member with whom they closely worked. However, those two participants stated that the professor's casual personality, younger age, desire to connect with students, and personal invitation to contact him or her by text message made the professor a special case.

Perceptions of faculty members regarding cell phones. All seven participants sensed that, in general, faculty members were unfamiliar with cell phones, uncomfortable communicating with students through the device, and that cell phones by nature were too casual and, therefore, an inappropriate means for communicating with faculty who are generally respect-oriented.

All seven participants believed faculty members preferred to be contacted by email than by voice calls or text messages. Participants perceived that professors are willing to give out their personal cell phone numbers, but are unfamiliar with texting, uncomfortable being on close terms through cell phones with students, and would be offended if contacted by text.

Texting is one of the most frequent ways students indicated that they communicate with others, including friends, siblings, significant others, parents,

supervisors, and co-workers, but not faculty members. For this reason, one male participant likened email to "texting for faculty," and added that he used his smart phone to email faculty members when necessary.

Even though participants complained that emails were too slow and that they rarely used or checked their student email accounts, participants perceived that emails were more formal than voices calls or text messages and, consequently, were the only suitable means for contacting faculty members outside of class. All seven participants stated that they were much more comfortable contacting a professor by email than by cell phone even though they rarely did so.

Perceptions of emails compared to text messages. Six out of seven participants preferred using text messaging over emailing. Participants described text messages as memorable, attention-getting, instant, and convenient, specifically because they did not have to sit in front of a computer. Conversely, participants said that email messages were not memorable, responses took hours or days, email systems were slow and annoying to navigate, and that inboxes full of messages were overwhelming.

Echoing the sentiment, one female participant said, "In general, emailing is if I want a response in a day or maybe several hours. And phones are like I need a response now." She concluded the reason she prefers phones to emailing is that technology has increased the pace of life and "taken the time period [people are willing to wait] for communication and made it a lot smaller."

According to the experiences of participants, cell phones had little to no effect on their involvement with faculty out-of-class. Even the two participants who text messaged and used voice calls to contact a professor downplayed their involvement and insisted the

professor was an exception. All seven participants said they had little to no involvement with faculty inside or outside of the classroom, and could not suggest how cell phones might improve their involvement with faculty.

Lived Experiences of College Student Cell Phone Users

One of the most surprising findings was how attached college students were to cell phones and how they communicated that dependence.

Fauxcellarms. Without prompting, five of the seven participants mentioned fauxcellarms in their interview. All five participants were physically excited to share that they had experienced phantom vibrations, phantom ringtones, and even the false sensation of their phone lighting up to indicate a call or text. Participants further shared that they were perplexed and concerned by the phenomenon.

Describing his experience with fauxcellarms, a male participant explained, "You think that someone is calling [because] just having [a cell phone] with you all the time becomes a part of your life. It's just like an extension of you, like an arm. And [human beings] weren't really built for that." As part of the same thought, the participant concluded that because cell phones were with students at all times they "can be negative because I think being solitary for a little while is good and can be a spiritual discipline. And not ever being able to have that I'd imagine would be pretty negative."

Anxiety and fear of being left out socially. Connected to fauxcellarms was one of the biggest fears and anxieties of college life: being left out socially. According to participants, the cell phone is closely associated with the negative feeling of being left out. The fear that participants shared was that if they do not always have a cell phone near them, they will miss out in some big way. Those negative emotions revealed a sad

fact: college student participants did not believe they would be contacted in person or by any other means except through their cell phones.

Echoing the common concerns and anxieties which participants shared, a female participant said,

> There have been times when I have left my cell phone in my room all day, and just the feeling of not having a cell phone now that I have had it so long is—I don't want to say sickening—but [acting panicked] I don't have my cell phone! I can't tell if anyone is contacting me or if someone is calling me. What if I have to make a phone call? I'm very dependent on it even though I don't use it all the time.

Similarly, a male participant added,

> For students nowadays, I think [a cell phone] would almost be as important as a wallet. Because, my ritual in the morning is to grab my keys, grab my wallet, grab my phone. If the phone's missing, something's off balance. Sometimes my phone has more importance than my wallet.

A second male participant recognized his cell phone anxiety was unwarranted but nevertheless difficult to overcome saying,

> [I sense] someone may send me an important message or try to call me and, of course, no one really does. But when you're separated [from your cell phone] you have that anxiety like [over dramatized pain] "oh no! An important call is coming and I don't have [my cell phone]."

Emphasizing the fear of being left out socially, the same participant concluded, "I am anxious to know what's going on, to remain connected. Because without my cell phone my personal feeling is [that I am] not connected at all on a campus-wide basis."

Several participants used their experiences with missing or broken cell phones to illustrate and validate their anxiety surrounding being left out. A female participant lamented that people did not bother to contact her by any other means when her phone broke:

> It can be a bit disconnecting because when my phone [broke] . . . I looked at some of my old texts and I had missed some important things like people saying, "hey, I'm going to be on campus. Can we hang out a bit?" . . . Not having that communication put me outside [of my social group].

After losing her phone, a second female participant determined,

> Because almost everyone else has that form of communication [a cell phone] becomes a necessity… If only 50% of the population had them, then not having one wouldn't really be that big a deal. But now that we have them—that instant communication—it's like if you don't have one people are like "what's wrong? How can we get a hold of you?"

Regardless why participants experienced fauxcellarms, cell phones created feelings of fear and anxiety based on the experience of being disconnected socially when separated from the device.

Cell phones: Good or bad? When asked how they would appraise cell phones overall, all seven participants said they thought cell phones were mostly positive. Not a single participant appraised cell phones negatively. Based on the frequency and number

of cell phone complaints and amount of times participants raised criticisms against their peers' cell phone use, this was surprising and never explained fully by participants. When asked by the researcher why they believed cell phones were mostly positive in light of their complaints, all seven participants struggled to rectify their opinions of cell phones with their specific experiences.

Chapter 5

Discussion

The results of this study indicated that cell phones positively promote face-to-face, out-of-class student involvement with other college students, increase students' likelihood of participating in on-campus programs, but are unlikely to facilitate involvement with faculty. Furthermore, the findings indicated that participants were dissatisfied with the quantity of interactions cell phones provided, and resented and blamed cell phones for the lack of quality relationships they have with others. Nevertheless, participants emphasized their perception of cell phones was mostly positive, even though they frequently described the devices' undesired and harmful effects, believing cell phones were necessary in order to stay socially connected and informed.

The knowledge gathered from the above findings was enhanced further when compared to the literature on college student cell phone use, specifically, and the effects of cell phones on humans, in general. Namely, the findings and available literature illustrated the positive and negative effects of cell phones on college students whose lives are heavily saturated by cell phones. In addition, the findings suggested strategies for higher education practitioners in order to improve the health, performance, and involvement of college students in light of the pervasiveness of cell phones.

Face-to-Face Interaction

The findings supported research by Jin and Park (2010), who found that the more face-to-face social interaction college students had, the more their cell phone use increased and their interpersonal motives for using their cell phones were affected positively. Their findings suggested that cell phone communication is a by-product of face-to-face relationships and not a replacement for face-to-face social interaction. A positive spin to this knowledge is that cell phone using college students will continue to engage face-to-face with others they already know. Conversely, when no familiar persons are present, college student cell phone users satisfy their otherwise positive urges to connect socially with those they know through the device by shutting out those with whom they are physically present.

Jin (2010) found that shyness and social anxiety reduced face-to-face to interaction and led to much lower rates of cell phone use. This finding was only partially confirmed in the present study. Two participants who self-identified as introverts used their cell phones least and mostly for logistical purposes (e.g., confirming homework) rather than social reasons. Regardless of whether cell phones are involved or not, shyness and introversion negatively impacts college students' involvement with their peers. However, more than the traditional condition of social anxiety and social apprehension, anxiety was linked most to missing out on social events rather than being engaged socially. Cell phone using college students experienced increased social anxiety, but not of the traditional sort, fearing instead that they would miss opportunities to engage with others unless their cell phone was present. If and how much students were physically, mentally, and emotionally harmed by this anxiety is unknown. But college students

understand that their social lives would suffer and other areas of their lives, such as their sense of belonging and attachment, may be negatively affected when their cell phones were absent.

Regarding face-to-face interaction, the study's findings also confirmed that cell phones primarily maintained already established relationships, as Jin (2010), Leung and Wei (2000), and Wei and Lo (2006) discovered. Interestingly, the premise that cell phones maintained existing relationships was further confirmed by students' frustration at cell phones for not creating new relationships or improving the quality of existing ones. It appeared that students had higher expectations for their cell phones than what the devices could ideally deliver from a social standpoint. The potential of the technology is great and rapidly increasing. However, while college students believed the promise that cell phones improve and enhance relationships, they were also disenchanted by the negative effects which they daily perceived. By means of programming on the strengths and limitations of cell phone technology in relation to socializing, the realistic utility of cell phones should be better communicated so that dissatisfaction with relationships does not persist because students have unrealistic expectations of their cell phones.

Sense of Community

Research by Braguglia (2008), which found links between cell phone users' sense of community and their constantly scanning their cell phones to see if they need to respond to someone, was confirmed by participants' fears of socially missing out and engaging with cell phones during interviews. That college students felt they belonged to a community of students was important to their overall success. However, the findings

suggested that students were measuring their belonging and community contributions based on their cell phone activity.

Participants emphasized the social benefits of cell phones and even stressed that utilitarian motives, such as the primary motive for using cell phones—information gathering—had mostly social ends. According to Jin (2010) and Wei and Lo (2006), cell phones primarily are used for social reasons much more than utilitarian reasons. But with smart phones as commonplace items on college campuses, utilitarian motives like information gathering have greater social implications and, apparently, have minimized the distinction between intrinsic and instrumental motives. Essentially, everything college students can do on a cell phone will have, or be justified on, social ends. For this reason, reminding students that the quality social life they yearn for exists outside of and apart from cell phones is increasingly more important.

Furthermore, participants thought smart phones were fashion statements and status symbols, both for those who had the latest devices and those who had relatively out-of-date feature phones or smart phones, with the former being more attractive (Jin, 2010; Wei & Lo, 2006). Again, cell phones are no longer simply communication devices. The experience of participants indicated that the devices were used to showcase users' implicit personality, popularity, and taste (Jin, 2010; Wei & Lo, 2006). While those with the latest devices were part of the positively charged in-crowd, those with dated or basic cell phone models felt mocked, looked down upon, excluded, and were jealous of those with the latest devices. Ironically, cell phones are both capable of socially connecting students as well as creating inequity among them because the perception is that cell phones are roughly representative of college students' identities. Subsequently, the

negative experiences and complaints of college students using cell phones and living with cell phones users became clearer.

Negative Cell Phone Experiences

Anxiety, dependence, and addiction. Participants felt cell phones were burdensome and sources of anxiety, aligning with research by Baron (2008) and Simon (2007). The self-imposed need to immediately respond to others and fauxcellarm experiences indicated cell phone-related anxieties and potential cell phone addiction. As Baron (2008) found in her international study on college student cell phone use, students in the present study also experienced sensations of cell phone dependence, addiction, and stress. Notably, every participant shared experiences with fauxcellarms unprompted. Contrary to Simon's (2007) research, fauxcellarms were not a source of pride for participants. However, participants did reflect Simon's (2007) finding that cell phone users believed fauxcellarms were an unnerving aspect of the technology. The anxiety, dependence, and potential addiction which college students' experience suggest that college students need to use their cell phones more healthily, and need more time and space away from their devices. By encouraging individual students to use their devices with their health in mind and to take short breaks away from cell phones, they can improve their health and broaden their perspectives on the technology. Further, through programming in residence halls or across campus, events such as technology fasts may encourage students to interact in a healthier manner with cell phones, leading them to experience fewer negative effects.

Negative impact on social structures. In interviews, college students said they daily experienced students prioritizing cell phones over socially interacting with

physically present peers. Research by Beaver (2010), Burns (2008), and Campbell (2006) suggested choosing to engage cell phones over physically present peers, authorities, and significant others is poor social behavior. Similarly, feature phone users were more likely to believe such activities were etiquette violations, while smart phone users justified their behavior as a change in cultural norms. This suggests that the widespread use of the technology is modifying social norms, particularly for those most involved with cell phones, that is, smart phone users, while feature phone users are less engaged with cell phones and follow more traditional forms of cell phone etiquette.

Regardless of the kind of phone used, participants equated not having a cell phone with being socially disconnected. Tied to feelings of anxiety and cell phone dependence, college students seemed to feel disconnected from others when apart from their cell phones. Furthermore, students mentioned experiencing feelings of sadness, fear, and anxiety when separated from the device, though some expressed relief, confirming the research of Stam and Stanton (2004), which indicated the average college student experiences sensations of high distress when separated from their device. The implications of this finding are serious for college students. An array of negative psychological effects and negative feelings which indicate poor student health were conveyed by participants including dependence, separation anxiety, fear, and distress (Ashforth, 2004; Beaver, 2010; Chesley, 2005; Stam, 2006).

While college students benefit in numerous ways from involvement in campus life, including participation with peers, attendance at on-campus programs, and interactions with faculty members, college students' mental wellbeing is of greater concern than their overall involvement. The experiences of college student participants

indicated that cell phones positively promote face-to-face involvement with peers and participation in on-campus programs, as well as awareness of on-campus activities. Far from entirely negative, cell phones had profoundly positive effects on college student life. But the speed at which cell phone technologies are advancing and growing in popularity suggests they are outpacing the rate at which college students, American society, and societies abroad are able to adapt. For this reason, the impact of cell phones on college students' mental health is a growing concern that much be addressed immediately.

Limitations

Because cell phones are a global phenomenon with many complex implications, even at the specific level of studying the effect of cell phones on college student involvement, the information communicated in this study is not exhaustive. All research studies have limitations. As much as possible, the limitations of this study were minimized. Even so, there are recognized limitations to this study's findings and applicability, including selection bias. Because participants chose to take part in this study, perhaps on the basis of their desire or belief that their experience and knowledge was valuable to communicate, this study may reflect only a segment of the lived experiences of college student cell phone users.

A small sample of participants shared a wealth of experiences, and corroborated many of the experiences shared by others. However, the size of the sample may not have reached saturation. Thus, themes, even significant ones, may not be accurately represented, if communicated at all.

That the participants were all from a small, residential university in the Midwest may also limit the applicability of this study to institutions of radically different designs, whose students may have different experiences than those included in this study.

Researcher bias is also a potential limitation of any research study and is unavoidable. The phenomenological methodology utilized in this study was designed to maintain as much objectivity as possible while completing this type of qualitative study and to minimize the researcher's preconceptions and prejudices. Nevertheless, despite these potential limitations, the study presents enticing and new information which should inform higher education professionals' understanding and practice.

Implications for Practitioners

The present study found that cell phones provide many benefits to college students, including enhancing involvement with peers and with their campus. Higher education practitioners should encourage and model positive and responsible cell phone use to students which draw on these strengths. The cell phone is a tool which can promote involvement in these areas. Especially when integrating cell phones into courses, educators should use those opportunities to instill and advance healthy, mindful, and reflective habits, supporting a positive vision for cell phone use, as well as support the institution's cell phone policy. When engaging personally with students through cell phones, particularly by text messaging, higher education professionals should be aware that students do perceive that cell phones are less respectful and more casual. For some practitioners, the more casual and intimate relationship with students would be a benefit and a means to foster students' involvement with faculty out-of-class. For those whose roles demand respect, engaging with students in this way may ultimately prove counter-

productive. How higher education professionals choose to integrate cell phones in their lives and interaction with students carries the potential to positively affect students' understanding, practice, and involvement.

Further, programming on the rapid growth and global impact of cell phone technology on the world is needed on college campuses, especially the breakdown in cell phone etiquette. Programming on these matters benefits the campus community as well as prepares graduates for professional work environments and family life. Because college students have very high expectations for what cell phones are able to accomplish and because cell phone technology is evolving and growing faster than college students can adapt, programs which communicate the realistic limits of the technology need to be implemented so that relational dissatisfaction does not persist due to unrealistic cell phone expectations and violations of social norms. As indicated in this study, college students struggle to evaluate critically cell phones and cell phone use. Such programs should desire to increase students' critical thinking abilities related to cell phone behaviors, namely, how they perceive their own use of the technology compared to that of their peers.

Furthermore, practitioners can remind students how to healthfully live with cell phones by programming technology fasts—living without cell phones for a period of time. Though students may react strongly against even the suggestion of such an event, the act of participating as a group with other students will facilitate their processing the thoughts and feelings associated with distance from their cell phones, something they otherwise may never experience because of the constant presence of the technology in their lives. The focus of a technology fast is not to vilify technology, but rather to provide

needed time and space for students to learn what impact cell phones have on their behavior, lifestyle, outlook, time management and health, and how to positively change the way they engage cell phones for the future. Even as students disengage from the technology, having them respond to reflection questions related to their cell phone use can facilitate their learning as they compare and contrast life with and without the ever-present means of communication.

Further Research

Recognizing the large scale impact that cell phones have on college students, this study began in its early development as quantitative in nature. Due to the lack of research on the relationship of cell phones to student involvement, the richness and breadth of a qualitative method was ultimately selected. Using the themes uncovered in this study, future researchers should perform a quantitative study on the effects of cell phones on student involvement and seek to answer questions related to how prevalent these experiences are among college students, as well as to define more clearly the beliefs and experiences of smart phone users compared to feature phone users.

In this study, two participants self-identified as introverts and suggested their introversion significantly impacted their cell phone use compared to their peers. This study could not confirm to what degree those persons were introverts and how that may have shaped their experience. Because of this, further research on the impact of introversion or extroversion, including a personality assessment instrument, on cell phone use would help to answer questions related to how other personality traits and dispositions affect college student cell phone use.

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Appendix

Interview Questions

Demographic Questions

Which year are you in school (i.e., freshman, sophomore, junior, senior)?
Do you live on campus?
Do you use a cell phone?
What kind of cell phone do you use?

Open-Ended Questions

What do you most often do on your cell phone?
Who do you contact the most through your cell phone?
How do cell phones connect you with other students?
How would not having a cell phone impact you?
What do you think of the way others use their cell phones?
How do cell phones impact the way people interact?
How do cell phones affect your ability to keep scheduled?
How often do you participate in campus activities (e.g., events, sports, programs)?
How do cell phones connect you with faculty outside of class?
Why do you use your cell phone?
How have cell phones changed your life?

Closing Questions

Is there anything more you would like to add?
Is there anything you wish I had asked?